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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,213	08/28/2003	Anthony C. Gilby	WAA-248 C1	7163

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Anthony J. Janiuk, Esq.
Waters Corporation
Legal Department
34 Maple Street
Milford, MA 01757

EXAMINER

GEISEL, KARA E

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/650,213

Applicant(s)

GILBY, ANTHONY C.

Examiner

Kara E. Geisel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-10 and 16 is/are allowed.
- 6) ☒ Claim(s) 11-15, 17-19, 21-23 and 27-29 is/are rejected.
- 7) ☒ Claim(s) 20 and 24-26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION***Priority***

Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. [1] as follows:

This claim for priority under 35 U.S.C. 120 must be submitted during the pendency of the later-filed application. If the later-filed application is an application filed under 35 U.S.C. 111(a), this reference must also be submitted within the later of four months from the actual filing date of the later-filed application or sixteen months from the filing date of the prior-filed application. If the later-filed application is a nonprovisional application which entered the national stage from an international application after compliance with 35 U.S.C. 371, this reference must also be submitted within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371 (b) or (f) in the later-filed international application or sixteen months from the filing date of the prior-filed application. These time periods are not extendable. Except as provided in paragraph (a)(3) of this section, the failure to timely submit the reference required by 35 U.S.C. 120 and paragraph (a)(2)(i) of this section is considered a waiver of any benefit under 35 U.S.C. 120, 121, or 365(c) to such prior-filed application.

If the reference required by 35 U.S.C. 120 is presented after the time period, the claim under 35 U.S.C. 120, 121, or 365(c) for the benefit of a prior-filed copending nonprovisional application or international application designating the United States of America may be accepted if the reference identifying the prior-filed application by application number or international application number and international filing date was unintentionally delayed. A petition to accept an unintentionally delayed claim under 35 U.S.C. 120, 121, or 365(c) for the benefit of a prior-filed application is required.

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-15, 17-19, 21-23, and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu (USPN 5,444,807), previously cited, in view of Kallet (USPN 4,345,837), newly cited.

In regards to claim 11, Liu discloses a method for measuring fluorescence from a liquid sample (column 1, lines 15-29) comprising passing the liquid sample through a flow channel (fig. 3, 10), directing an excitation beam axially through the flow channel (22 and column 6, lines 66-68), emitting fluorescence through an emission window substantially parallel to a long axis of the flow channel (emissions window defined as the cell wall), and detecting the fluorescence from the sample liquid (24 and column 7, lines 8-15). Liu is silent to retro-reflecting the excitation beam back through the flow channel, both passes generating fluorescence.

Kallet discloses a flow cell including a measuring device for measuring features of a liquid sample (fig. 1, 28 and column 19-30), comprising passing the liquid sample through a flow channel (10), directing an excitation beam through the flow channel (14), and detecting the features from the sample liquid (column 3, lines 12-24). A mirror (20, 26) is used for retro-reflecting the excitation beam back through the flow channel, both passes generating fluorescence. The mirror is used to enhance the signal level, which is done by increasing the amount of radiation the sample receives by increasing the beam path by reflecting the beam back through the sample, therefore increasing the amount of emitted light to be detected (column 1, lines 53-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include in Liu's device for measuring fluorescence from a liquid sample a mirror at the distal end of the flow cell in order to enhance the fluorescent signal level that is

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detected by increasing the beam path of the light within the sample, therefore increasing the fluorescent emissions.

In regards to claims 12-13, the combined method is silent to what light source is used for measuring fluorescence from a liquid sample. However, it is disclosed that a light source is used to excite the sample (Liu column 6, lines 30-34). The examiner takes Official Notice that light sources such as Xenon arc, Xenon/Mercury arc, Deuterium arc, and a Tungsten Halogen lamp are very well known in the art for use as excitation light sources. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include one of these light sources in the device for measuring fluorescence from a liquid sample, in order to excite the sample to fluoresce.

In regards to claim 14, the excitation beam is produced from excitation optics in a first plane (Liu fig. 3, 22).

In regards to claim 15, fluorescence is directed to a detector (Liu fig. 3, 24) by emission optics (26 and the wall of 10) that are in a second plane perpendicular to the first plane.

In regards to claim 17, Liu discloses a flow cell for photometric analysis (fig. 3) comprising a cell body (10), a flow channel formed in the body having an input means (12) and output means (13), a light input means (22) positioned axially to the cell body where the light input means and the cell body are within a first plane, a light source means (column 6, lines 30-34) for emitting an excitation beam of a predetermined wavelength, wherein the excitation beam flows axially through the flow channel producing fluorescence, a light output means positioned substantially parallel to a long axis of the flow channel and to the first plane of the cell body (light output means defined as the cell wall), a means for reflecting the fluorescence toward the light output means (26), and a light detector means (24) positioned contiguous to the light output means. It is not disclosed that there is a means for retro-reflecting the excitation beam back through the flow channel.

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Kallet discloses a flow cell including a measuring device for measuring features of a liquid sample (fig. 1, 28 and column 19-30), comprising a flow channel (10), means for directing an excitation beam through the flow channel (12, 14), and a detector for detecting the features from the sample liquid (28). A mirror (20, 26) is used for retro-reflecting the excitation beam back through the flow channel. The mirror is used to enhance the signal level, which is done by increasing the path length of the beam, and therefore, the amount of radiation the sample receives, and by reflecting the beam back through the sample, it increases the amount of emitted light to be detected (column 1, lines 53-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include in Liu's device for measuring fluorescence from a liquid sample a means for retro-reflecting the beam back through the flow channel, such as a mirror at the distal end of the flow cell, in order to enhance the fluorescent signal level that is detected by increasing the beam path of the light within the sample, therefore increasing the fluorescent emissions.

In regards to claims 18-19, the combined flow cell is silent to what light source is used for measuring fluorescence from a liquid sample. However, it is disclosed that a light source is used to excite the sample (Liu column 6, lines 30-34). The examiner takes Official Notice that light sources such as Xenon arc, Xenon/Mercury arc, Deuterium arc, and a Tungsten Halogen lamp are very well known in the art for use as excitation light sources. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include one of these light sources in the device for measuring fluorescence from a liquid sample, in order to excite the sample to fluoresce.

In regards to claim 21, the means for reflecting the fluorescence comprises a mirrored surface opposite the light output means (Liu fig. 3, 26).

In regards to claim 22, the light output means comprises a transparent window (the cell wall, which is transparent to the excitation light is defined as the transparent window).

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In regards to claim 23, while no lens is disclosed in Liu, a light source directs a light beam into a flow cell via an optical fiber (Liu column 6, lines 30-34). The examiner takes Official Notice that it is well known in the art to place a lens between the laser and the light source, thereby being part of the light input means, in order to direct the entire light beam from the light source, into the optical fiber.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a lens in the light input means in order to direct the entire light beam from the light source, into the optical fiber.

In regards to claims 27-28, the reflecting means of the combined apparatus does not disclose what material it is made out of, however it is disclosed that the reflecting means is a mirror (column 7, lines 10-15). The examiner takes Official Notice, that it is well known in the art to have aluminum, gold, or silver coated quartz sheet as a mirror, since they are good reflectors in the UV and visible ranges. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the mirror be a quartz sheet with an evaporated coating of aluminum, gold, or silver as the means to reflect the visible or UV fluorescence.

In regards to claim 29, the first plane is a horizontal plane, and the second plane is a vertical plane (Liu fig. 3).

Allowable Subject Matter

Claims 1-10 and 16 are allowed over the prior art of record for the reasons set forth in the previous Office Action (paper number 0905).

Claims 20, 24-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims for the reasons set forth in the previous Office Action (paper number 0905).

Additional Prior Art

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art made of record is Harrick (USPN 3,715,585).

Harrick discloses enhancing fluorescence emitted by a sample in a fluid cell by increasing the path length of a beam of exciting light within the sample, therefore, increasing the amount of fluorescent emissions.

Response to Arguments

Applicant's arguments, see the Remarks, filed February 86th, 2006, with respect only to the fact that the Doyle reference is directed to a Raman device and not a fluorescent one has been fully considered and is persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kallet (USPN 4,345,837).

Conclusion

Several facts have been relied upon from the personal knowledge of the examiner about which the examiner took Official Notice in the previous Office Action (paper number 0905). Applicant must seasonably challenge well known statements and statements based on personal knowledge when they are made by the Board of Patent Appeals and Interferences. In re Selmi, 156 F.2d 96, 70 USPQ 197 (CCPA 1946); In re Fischer, 125 F.2d 725, 52 USPQ 473 (CCPA 1942). See also In re Boon, 439 F.2d 724, 169 USPQ 231 (CCPA 1971) (a challenge to the taking of judicial notice must contain adequate information or argument to create on its face a reasonable doubt regarding the circumstances justifying the judicial notice). If applicant does not seasonably traverse the well-known statement during examination, then the object of the well-known statement is taken to be admitted prior art. In re Chevenard, 139 F.2d 71, 60 USPQ 239 (CCPA 1943). A seasonable challenge constitutes a demand for evidence made as soon as practicable during prosecution. Thus, applicant is charged with rebutting the well-known statement in the next reply after the Office action in which the well-known statement was made. The applicant has not

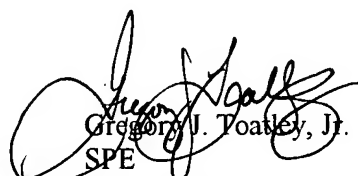
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presented a traversal in the Amendment filed February 8th, 2006, thus the well-known statement is taken to be admitted prior art. See MPEP 2144.03, paragraphs 4 and 6.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kara E. Geisel whose telephone number is 571 272 2416. The examiner can normally be reached on Monday through Friday, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on 571 272 2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Gregory J. Toatley, Jr.
SPE
Art Unit 2877
17 April 06

K.E.G.
KEG
April 15, 2006